

Doc Code: AP PRE REQ

PTO/SB/33 (07-05)

Approved for use through xx/xx/200x OMB C651-00xx

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

Azadet 15-7

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents P O Box 1450 Alexandria VA 22313-1450" [37 CFR 1.8(a)]

on _____

Signature _____

Typed or printed name _____

Application Number

10/022,665

Filed

12/18/01

First Named Inventor

Azadet et al.

Art Unit

2133

Examiner

Joseph D. Torres

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96)

☒ attorney or agent of record
Registration number **36,597**

☐ attorney or agent acting under 37 CFR 1.34

Registration number if acting under 37 CFR 1.34 _____

Kevin M. Mason

Signature

Kevin M. Mason

Typed or printed name

(203) 255-6560

Telephone number

October 30, 2006

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P O Box 1450, Alexandria, VA 22313-1450

If you need assistance in completing the form call 1-800-PTO-9199 and select option 2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application

5 Applicant(s): Azadet et al.
Case: 15-7
Serial No.: 10/022,665
Filing Date: December 18, 2001
Group: 2133
10 Examiner: Joseph D. Torres

Title: Method and Apparatus for Joint Equalization and Decoding of
Multidimensional Codes Transmitted over Multiple Symbol Durations

15

MEMORANDUM IN SUPPORT OF
PRE-APPEAL BRIEF REQUEST FOR REVIEW

20 Mail Stop AF
Commissioner for Patents
P O Box 1450
Alexandria, VA 22313-1450

25 Sir:

The present invention and prior art have been summarized in Applicants'
30 prior responses.

STATEMENT OF GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1 through 20 are presently pending in the above-identified patent application. Claims 1, 21, 26, 27 and 33 are rejected under 35 U.S.C. §103(a) as being unpatentable over Chevillat (United States Patent No. 5,031,195) in view of Kim (United States Patent No. 5,963,592) and claims 2-4, 9, 10, 22-25 and 34 are rejected under 35 U.S.C. §103(a) as being unpatentable over Chevillat in view of Eyuboglu (United States Patent No. 4,713,829).

The Examiner indicated that claims 28-32 would be allowable if rewritten in independent form. Applicants assume that the Section 112 rejection and Drawings objection have been withdrawn, since they were addressed by Applicants in the prior response and were not further addressed by the Examiner in the Advisory Action.

Arguments

Independent Claims 1, 21 and 33

The Examiner rejected independent claims 1, 21 and 33 under 35 U.S.C. §103(a) as being unpatentable over Chevillat in view of Kim. With regard to claims 1 and 21, for example, the Examiner asserts that Chevillat teaches compensating for intersymbol interference caused by previously transmitted multidimensional code symbols (citing Abstract and col 5, lines 8-17 and 46). The Examiner acknowledges that Chevillat does not explicitly teach the use of taking specific compensatory actions for intrasymbol interference. The Examiner asserts, however, that Kim teaches compensation for intrasymbol interference (citing col 9, lines 8-13).

In order to simplify the issues that are presented for appeal, Applicants submit that neither Chevillat nor Kim, separately or in combination, disclose or suggest compensating for *intrasymbol* interference caused by symbol components within a current multidimensional code symbol.

15 *Patentable Weight of “Multidimensional Code Symbol” Definition*

In the Advisory Action, the Examiner asserts that the preamble language “a multidimensional code symbol comprises a number of symbol components of lower dimensionality,” should not be given patentable weight, because the recitation occurs in the preamble. To the contrary, however, the above quoted limitation “...caused by symbol components within a current multidimensional code symbol,” must be interpreted in light of the preamble. The term “multidimensional code symbol” is defined in the preamble to comprise “a number of symbol components of lower dimensionality,” and thus, this recitation **must** be given patentable weight.

Despite the comments of the Examiner in the Advisory Action, the preamble recitation “a number of symbol components of lower dimensionality,” does not merely recite the purpose of a process or the intended use of a structure. In fact, the body of the claim most certainly depends on the preamble for completeness. Thus, the Examiner’s own cited case law is not even applicable. There is no basis in law or fact for overlooking the explicit definition of the term “multidimensional code symbol,” in the manner suggested by the Examiner.

Intrasymbol Interference Compensation

Independent claims 1, 21 and 33 require compensating for intrasymbol interference caused by symbol components within a current multidimensional code symbol. In the final Office Action, the Examiner asserts that Kim teaches compensation
 5 for intrasymbol interference (citing col. 9, lines 8-13)

In the Advisory Action, the Examiner did not address the issue of *intrasymbol* interference at all, and failed to address any of Applicants' remarks with respect to *intrasymbol* interference.

Appellants respectfully submit that the Examiner has failed to establish a
 10 *prima facie* case of obviousness for at least the reason that there exists no motivation to combine the references, and further, even if combinable, the references collectively do not teach each and every limitation of the independent claims. See, e.g., M.P.E.P. §2143. Also, there is no reasonable expectation of success. *Id*

Applicants submit that the references, when combined, do not disclose or
 15 suggest compensating for intrasymbol interference caused by symbol components within a current multidimensional **code** symbol. As indicated by Applicants in at least two prior responses (but, again, *not addressed at all by the Examiner in the latest Office Action or Advisory Action*), **Kim is not even directed to a coded system!** Thus, Kim does not disclose or suggest compensating for *intrasymbol* interference within multidimensional
 20 **code** symbols. Kim defines intrasymbol interference in the context of in-phase and quadrature-phase filtering in an OFDM transceiver without consideration of coding. Applicants **again** respectfully request the Examiner to specifically identify any suggestion of a multidimensional code in Kim.

Applicants further submit that there exists no motivation to combine the
 25 references. The Examiner asserts that it would be obvious to modify Chevillat with the teachings of Kim by including the use of taking specific compensatory actions for intrasymbol interference, because one of ordinary skill in the art would have recognized that such compensatory actions would have provided adaptation for abrupt changes in the channel.

30 First, since Kim is not even directed to a coded system, a person of ordinary skill in the art would not even look to Kim for a solution to the problem

addressed by the present invention, namely, the decoding of multidimensional codes. Thus, a person of ordinary skill would not combine Chevillat and Kim.

Second, the Examiner seems to rely on the general notion that “intersymbol and intrasymbol interference are a type of noise due to multi-path fading, causing errors in the received data,” in support of a motivation to combine. Applicants note, however, that intersymbol and intrasymbol interference are distinct and independent types of channel impairments, each requiring specific treatment. A solution that compensates for intersymbol interference does not suggest a solution that compensates for intrasymbol interference, and vice versa.

Also, there is no reasonable expectation of success for the combination of Chevillat and Kim. Kim suggests to “to remove intrasymbol interferency by updating the in-phase and quadrature phase filtering coefficients by utilizing the pilot signal,” which is different from “compensating for intrasymbol interference caused by symbol components within a current multidimensional code symbol.” Kim addresses the removal of intrasymbol interference for an uncoded symbol comprising I and Q coordinates, whereas claim 1 addresses the compensation of intrasymbol interference caused by symbol components within a current multidimensional code symbol. It is not clear to Applicants how the removal of in-phase and quadrature-phase filtering coefficients by utilizing the pilot signal leads to the compensation of intrasymbol interference caused by symbol components within a current code symbol. Therefore, there is no reasonable expectation of success.

Thus, Applicants respectfully request withdrawal of the Section 103 rejection of the independent claims.

Dependent Claims

The Examiner rejected dependent claims 26 and 27 under 35 U.S.C. §103(a) as being unpatentable over Chevillat in view of Kim. Dependent claims 2-4, 9, 10, 22-25 and 34 were rejected under 35 U.S.C. §103(a) as being unpatentable over Chevillat in view of Eyuboglu. Claims 2-4, 9-10, and 22-23 and 34 are dependent on claims 1, or 33 and are therefore patentably distinguished over Chevillat, Eyuboglu and Kim (alone or in combination) because of their dependency from independent claims 1 or 33 for the reasons set forth above, as well as other elements these claims add in

combination to their base claim.

Conclusion

All of the pending claims are in condition for allowance and such favorable action is earnestly solicited.

5 Applicants expressly reserve the right to submit in any subsequent Appeal or prosecution, the more detailed arguments regarding the “intersymbol interference” claim limitations, as well as the detailed arguments regarding the patentability of a number of dependent claims from applicants’ prior response to the final Office Action.

10 If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner’s attention to this matter is appreciated.

Respectfully submitted,



15 Date: October 30, 2006

Kevin M. Mason
Attorney for Applicants
Reg. No. 36,597
Ryan, Mason & Lewis, LLP
1300 Post Road, Suite 205
Fairfield, CT 06824
(203) 255-6560

20